



Low Calcium (≤ 400 mg) Diet

General Description

The 400 mg calcium diet is used as a controlled diet for those undergoing diagnostic testing for hyperparathyroidism. In order to restrict calcium intake to this level, generally foods containing >80 mg of calcium per serving are not allowed. Patients' menu selections are edited to control dietary calcium intake, and patients are instructed as to what foods/beverages to avoid while on this diet.

Indications for Use

The 400 mg calcium diet is used in conjunction with diagnostic studies of hyperparathyroidism for several NIDDK protocols. It is intended to provide a stable, consistent low calcium intake for research subjects who are undergoing blood and urine collections for calcium and other minerals/electrolytes.(1)

The 400 mg calcium diet is not considered to be therapeutic for those with hyperparathyroidism. For those not currently undergoing parathyroid protocol testing, a moderate calcium intake (not "restricted or excess") may be appropriate therapeutically for management of hyperparathyroidism (2).

Following parathyroidectomy and as soon as food intake resumes, the calcium restriction is usually discontinued.

Guidelines

Patient's menu selections will be edited to assure that ≤ 400 mg of calcium is provided daily. Patients will be informed of the restriction and advised to avoid consuming high calcium foods while on this diet.

Foods that need to be avoided or limited include:

- Milk and dairy products (milk, yogurt, cheese, ice cream, pudding)
- Foods containing significant amounts of dairy products (pizza, macaroni and cheese, creamed soups, etc)
- Orange juice fortified with calcium
- Nutritional supplements fortified with calcium
- Fish with edible bones (some canned salmon, sardines, etc)
- Tofu processed with calcium
- Collard greens, turnip greens, spinach, broccoli, kale
- Beans: kidney, navy, black, baked, etc
- Any other foods containing ≥ 80 mg calcium (or $\geq 8\%$ DV calcium per Nutrition Facts label)

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Nutritional Adequacy

In comparison to the Dietary Reference Intakes (DRIs), this diet is adequate in all nutrients with the exception of calcium, and possibly phosphorus and riboflavin. Since the diet is usually only followed for 2-3 weeks, these inadequacies are not considered detrimental. Multivitamin/mineral supplements should not be ordered since these often contain calcium, nor should calcium-containing antacids be taken

References

1. Personal communication with NIDDK senior investigator (Stephen J. Marx, MD)
2. Diagnosis and management of asymptomatic primary hyperparathyroidism. NIH Consensus Statement 1990 Oct 29-31; 8(7).